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**STATEMENT OF  
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BEFORE THE  
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS  
UNITED STATES SENATE**

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**INTRODUCTION**

Good morning, Mr. Chairman and Members of the Committee. I am Tracy Mehan, Assistant Administrator for Water at the U.S. Environmental Protection Agency (EPA). I appreciate and welcome this opportunity to celebrate three decades of progress in improving the quality of our Nation's rivers, lakes, streams, wetlands and estuaries under the Clean Water Act (CWA), and to consider the continuing challenges ahead to protect water quality, human health and the environment. October 18, 2002, will mark the 30<sup>th</sup> anniversary of the Clean Water Act. Thanks in no small part to this landmark legislation, we have accomplished a great deal over the past 30 years in improving and maintaining water quality in our country. While challenges remain, we have better mechanisms in place today, including improved federal and State partnerships, to tackle those issues and accomplish further improvements in the quality of our nation's waters.

## WHAT WE HAVE ACHIEVED

We are all familiar with the horror stories about where we started from thirty years ago. As we entered the 1970s, the Nation's waters were in crisis -- the Potomac River was too polluted for swimming, Lake Erie was dying, and the Cuyahoga River had burst into flames. Many of the Nation's waterways were little more than open sewers.

The 1972 Clean Water Act has sharply increased the number of waterways that are once again safe for fishing and swimming. The Act launched an all-out assault on water pollution, and it worked well. It enabled us to improve water quality all across the nation while experiencing record economic growth and a sizeable expansion of our population.

It included new controls over point source dischargers, including the setting of strong federal standards to control both municipal and industrial pollution sources, a major investment by the federal government to help communities build sewage treatment plants, and support for State efforts to reduce polluted runoff. It established the National Pollutant Discharge Elimination System (NPDES) program to ensure that those standards were put into place by cities and industries. And it spurred the creation of strong partnerships with the States, as the level of government principally responsible under the Act to implement its provisions on the ground.

Municipal sewage treatment plants were required to upgrade to secondary or advanced levels of treatment, depending on the characteristics and quality of the receiving water bodies. To help local governments with this effort, the federal government has provided over \$80 billion in wastewater assistance to municipalities over these three decades. These investments -- made through grants to wastewater utilities into the late

1980's, and after the passage of the 1987 Clean Water Act Amendments, mainly through grants to States to capitalize State Revolving Loan funds (SRFs) -- have dramatically increased the number of Americans enjoying better water quality.

The SRFs were designed to provide a national financial resource for clean water that would be matched and managed by States, and provide a funding resource "in perpetuity." These important goals are being achieved. Because of the revolving nature of the funds, dollars invested in the SRFs provide about four times the purchasing power over twenty years compared to what would occur if the funds were distributed directly to municipalities as grants. Other federal, State, and private sector funding sources are also available for community water infrastructure investments

As a result, pollution from industrial sources and municipal sewage treatment plants plummeted. By any measure -- pounds of pollution abated, stream segments improved, fisheries restored -- tremendous load reductions from point sources occurred, resulting in significant improvements in water quality across the nation. The dramatic progress made in improving the quality of wastewater treatment since the 1970's is a national success. In 1968, only 86 million people were served by secondary or advanced treatment facilities. Today, of the 190 million people served by wastewater treatment facilities, more than 87 percent -- about 165 million people (double the pre-CWA number) -- are served by secondary or better treatment.

Thirty years ago, wetlands losses were estimated at about 460,000 acres annually. Now, according to recent studies, we estimate that we have significantly reduced wetlands losses, although we are not yet at "no net loss."

During the past decade, the U.S. has preserved, restored and/or created hundreds of thousands of acres of habitat nationwide as part of the National Estuary Program. The program focuses not just on improving water quality in an estuary, but on maintaining the integrity of the whole system -- its chemical, physical, and biological properties, as well as its economic, recreational, and aesthetic values. Some of the mechanisms used to protect habitats include land acquisition, conservation easements, and deed restrictions.

Since passage of the Clean Water Act in 1972, water pollution problems are being addressed by hard-working partnerships among government, private institutions and individual citizens. There are myriad success stories:

- < renewed fishing in the Androscoggin (ME), Connecticut (CT), Potomac (VA/MD), the Illinois (IL) and many other rivers.
- < Improved shellfishing in Narragansett Bay (RI).
- < Healthier and more abundant sea grasses in Tampa Bay(FL), Galveston Bay (TX), and the Chesapeake Bay (DE/MD/VA).
- < The rejuvenation of the Chicago River (IL) and the Cuyahoga River (OH), from “virtual sewers” to places where people can recreate and where they want to be.
- < Restoration of a world-class Walleye fishery in Lake Erie.
- < The transformation of Oregon’s Willamette River, from, in the early 1960’s, a water body overburdened with pollutants that killed salmon, posed threats to public health, and stopped river-based recreation to one where boating, skiing, swimming, and fishing are flourishing once again.
- < Over the past decade, EPA has witnessed a groundswell of support for locally-driven watershed protection and restoration efforts. In many communities, such as those along the Charles River in Massachusetts, citizen groups, government agencies, non-profit organizations, and businesses have come together and created long-term goals and innovative solutions to clean up their watersheds and promote more sustainable uses of their water resources.

## REMAINING CHALLENGES

The news, however, is not universally good, as indicated by our improved monitoring techniques, which enable us to monitor more water bodies. National water quality monitoring data reported by the States in the year 2000 shows that approximately 45% of waters assessed by States are not clean enough to meet basic uses such as fishing or swimming; e.g., they do not meet water quality standards. (I should emphasize that this change from previous years is likely due to changes in how we and the States monitor, analyze, and report water quality, not necessarily declines in water quality.) The 2000 National Water Quality Report indicates that 39% of assessed rivers and streams and 39% of assessed lakes are not safe for fish consumption. The estimates for non-attainment of swimming were 32% and 30%; for drinking water, 16% and 21%.

The remaining problems impacting water quality are not easily remedied -- they come not just from pipes, but from diffuse sources such as farming and forestry operations, construction sites, urban streets, automobiles, atmospheric deposition, and even suburban homes and yards. While some of these diffuse sources are considered nonpoint sources under the Act, others are regulated as point sources, as in the current NPDES storm water program. It is immensely challenging to manage these sources using traditional regulatory tools, because they are not well suited to end-of-pipe treatment, and the sources are so numerous and widespread. State and local water quality managers are still learning what kinds of management practices work best for different kinds of sources.

This learning process will require us all to aggregate their collective experience if we are to better understand the water quality benefits of different practices under varied conditions.

Nor are the great variety of pollution sources just chemical in nature. There are physical and biological threats to our nation's waters that we must address as well if we are to truly achieve the stated goal of the Clean Water Act to "restore and maintain the chemical, *physical and biological* integrity of the Nation's waters".

Physical integrity can have numerous dimensions. For instance, some human activities in the riparian zone can themselves be a source of water quality impairment, both through erosion and through reducing or eliminating the riparian vegetation that can buffer our waters against detrimental effects of upland human activities. Similarly, States are increasingly taking action, through a variety of programs, to ensure adequate instream flows to support water quality for drinking water, habitat, and recreation uses.

Invasive species are an example of a real and growing threat to the biological well-being of our nation's aquatic and terrestrial resources, as well as to the health of our economy. For example, more than 160 invasive aquatic organisms of all types -- including plants, fish, algae and mollusks -- have become established in the Great Lakes since the 1800s. The U.S. Fish & Wildlife Service estimates that the potential economic impacts of one of these species -- the zebra mussel -- will be \$5 billion over the next ten years to U.S. and Canadian water users within the Great Lakes region.

*Tools for Cleaning Up Impaired Waters*

Meanwhile, EPA will continue to implement those programs already underway that aim to ensure the quality of the nation's water. The past decade has seen a shift towards an emphasis on what is now commonly referred to as the watershed approach. EPA has been promoting, and many governments have been practicing, a "watershed approach" in their work, which encourages a holistic take on identifying problems and implementing the integrated solutions that are needed to overcome multiple causes of water quality impairment. Increasingly, States, Tribes, watershed groups and others are recognizing the value of implementing watershed protection approaches, and are using them as the organizing frameworks for their protection and restoration activities.

EPA views watersheds as the basic unit to define and gauge the nation's water quality. Our actions to restore America's streams, lakes, and rivers must be based upon improving the watersheds which unite not just our rivers and streams, but our communities, and thereby bind together our lives with our environment. The watershed approach enables us to address the problems of greatest concern in a comprehensive, effective manner, and through cooperation with affected stakeholders to maximize our results with limited resources.

In addition to the watershed approach, there are several specific tools I would like to mention that we can bring to bear to address the more complicated water quality problems we are now facing. One of these tools is the Total Maximum Daily Load, or TMDL, Program. In enacting the CWA, Congress retained a water quality-based strategy for waters that remained polluted after the application of technology-based standards. The TMDL Program, contained in section 303(d), essentially tells States to establish a water

quality cleanup budget for such waters. This part of the CWA was kept on the back burner for about 20 years while other aspects of the CWA were emphasized, particularly implementation of minimum levels of treatment for industrial and municipal dischargers. The authors of the 1972 Clean Water Act created the TMDL Program as a resource to ensure the availability of essential information for cleaning up water bodies that were not protected or restored under the general pollution control programs of the Clean Water Act.

EPA has been encouraging States to develop and implement TMDLs on a watershed basis. Our hope is that this approach will greatly increase collaboration and support for the needed pollutant controls. Increased public involvement is vital in several respects. Because TMDLs are water-quality based, they are information-intensive, requiring widespread and systematic monitoring to identify and characterize problems and priorities, and to track progress in solving them. Public involvement can contribute to this information process both directly and through increased visibility for problem-solving. And it will help make sure that TMDLs get translated from allocations into action, because information brought before the public is itself a driver for action.

Opening the deliberations to all stakeholders and allowing time for innovation also will provide additional opportunities to take advantage of other programs, including Nonpoint Source grants under section 319 of the Clean Water Act, the conservation provisions of the newly reauthorized Farm Bill, the source water assessment requirements of the Safe Drinking Water Act (SDWA), and other federal, State and local programs. Greater inclusiveness and time in the process are especially important because these programs are diverse and require a substantial amount of coordination among agencies,

levels of government and different program characteristics. Nonpoint source 319 grants are a fundamental tool to address impairments because they can be targeted as a part of TMDL prioritization, and thus can be used as part of States' cumulative strategies to clean up impaired waters. Farm Bill funds are a broad resource to help farmers implement practices that could protect water quality generally, including by maintaining water quality or complementing 319 funds in impaired waters. We are looking forward to States completing their source water assessments under SDWA next year (2003) so that we can have a clearer picture of the threats to source waters at both the State and national level.

The TMDL program continues to evolve to meet the challenges of cleaning up our nation's waters, and several changes to the TMDL program currently are under consideration. One of the key changes would reinvigorate the States' continuing planning process under Section 303(e) of the CWA. This section of the Act calls for States to have a Continuing Planning Process (CPP), which describes how all the pieces of the States' programs, including TMDLs, work together to achieve water quality goals. While all States already have some form of CPP, we will be encouraging States to enhance their CPP programs. We also are encouraging that TMDL implementation be done as part of revitalized State continuing planning processes, where States would use their own approaches and programs to clean up their waters. We believe that this is good government and puts implementation where it ought to be -- at the State level.

Maintaining high environmental standards and sustaining a healthy economy require that we optimize costs and conserve our natural resources. Economic incentives can be an important tool to help meet this challenge. We must take advantage of market

forces to provide incentives for voluntary reductions, emerging technology and greater regulatory flexibility.

Water quality trading, for example, holds great promise as a market-based tool for addressing water pollution. Trading is an innovative way for water quality agencies and community stakeholders, including State and local governments, point source dischargers, contributors to nonpoint source pollution, citizen groups, other federal agencies, and the public at large, to develop common-sense, cost-effective solutions for water quality problems in their watersheds. Trading is a tool communities can use to grow and prosper while retaining their commitment to water quality.

These are not a random set of improvements. They are all important elements of the shift in paradigms that is necessary to make further progress in cleaning up America's waters. It is time, not so much for a change in course as a shift in focus: from a point source-oriented program to a non-point centered one; from relying largely on technology-based standards to complementing past progress by a water quality-based approach, and from emphasizing inputs to focusing on environmental outcomes. These tools I have described are the means to make this shift.

### *Closing The Funding "Gap"*

Because infrastructure replacement needs largely echo demographic trends across the country, communities will be challenged in the coming years as they face needs to increase spending to address replacement of aging infrastructure built in the 1950-60's, and current demands fueled by population growth. Several groups have conducted studies

to evaluate whether a funding gap will develop between projected investment needs and current levels of spending in drinking water and wastewater infrastructure over the next 20 years. Reports released by these groups, which include the Water Infrastructure Network and Congressional Budget Office, have estimated a significant capital funding gap.

Over the past year, in order to gain a better understanding of the future challenges for infrastructure to secure clean and safe water, EPA has conducted its own Gap Analysis study. The study used results from EPA's needs survey, adjusted for under-reporting of capital needs, as the starting point for calculating capital and operations and maintenance investment needs. We then used several alternative assumptions to generate scenarios for estimating the capital and O&M gaps. The methods and data used in the analysis were subjected to peer review by a diverse panel of external reviewers drawn from academia, industry and think tanks. Overall, the reviewers commended EPA for making a credible effort to quantify the gap given limitations in available data, and made several recommendations for changes which were incorporated into revisions of the Analysis.

The Analysis included two scenarios -- a "no revenue growth" scenario and a "revenue growth" scenario. The "no revenue growth" scenario is useful to understand the extent to which spending might need to increase relative to the status quo. This scenario estimates a total capital payments gap of \$122 billion, or about \$6 billion per year, for clean water. The clean water O&M gap is estimated at \$148 billion, or \$7 billion per year. It is important to recognize that the funding gaps would occur only if capital and O&M spending do not increase from present levels.

In reality, increasing needs likely will prompt increased spending and thus a smaller funding gap. Thus, if one assumes that spending on clean water infrastructure increases at 3% annually above the rate of inflation -- a "revenue growth" scenario -- the capital gap is \$21 billion, or about \$1 billion per year, and the O&M gap is estimated at \$10 billion, or \$0.5 billion per year. This "revenue growth" scenario shows the size of the gap if revenue and spending keep pace with the long-term growth rate expected for the economy as a whole.

Moreover, both scenarios look at the supply side of infrastructure financing (how to pay for needs) but ignore the demand side (how to reduce infrastructure costs and make the most efficient use of our capital facilities). Demand side measures adopted by some utilities include: asset management and administrative restructuring (including consolidation and/ or privatization), which can reduce capital and O&M costs; and, rate structures that better reflect the cost of service and encourage conservation. However, the Analysis is very important, because it presents a dramatic indication of the funding gap that will result if we ignore the challenges posed by an aging infrastructure network -- a significant portion of which is beginning to reach the end of its useful design life.

During the current session, Congress has been paying attention to water infrastructure. As we stated in our testimony on S. 1961 earlier this year, the Administration does not support the authorization levels as they do not reflect the President's priorities of defense and homeland security. However, there are elements of the bills that we do support, such as new loan conditions tied to utilities' fiscal sustainability. At the same time, we continue to state that we want to make sure that the

conditions operate in ways that are workable for loan applicants and States alike, and that the SRFs can continue to function to provide the needed kinds of assistance.

Most infrastructure investment has been, and will continue to be, derived from local sources, be they ratepayers or taxpayers. To meet these future challenges, we believe our strategy should be fiscally responsible and sustainable. While some of the goals and principles we have stated are reflected in legislation before Congress, some represent actions that can be taken administratively. Thus, EPA will convene a forum of stakeholders to address the infrastructure challenge in new and innovative ways. Ensuring that our infrastructure needs are addressed will require a shared commitment on the part of the federal, State, and local governments, private business, and consumers.

### *Water Conservation*

While the traditional focus of the EPA and local officials responsible for water programs has been on water quality, I maintain that both today and in the future, we must pay much closer attention to understanding and managing our demands for clean water. Water is truly the staple of our existence.

This summer of drought is harshly reminding many Americans of the need to appreciate clean water as the scarce and invaluable resource it is. As our population increases, the need for clean water supplies continues to grow dramatically and puts additional stress on our limited water resources. I truly believe that efficient water use needs to be an essential part of our daily lives. The local, State, and Tribal officials who are leading the way in our communities in implementing water efficiency measures are not only saving water, but also are forestalling the need to build new, expensive water and wastewater treatment plants. Administrator Christine Todd Whitman has recently recognized the critically important work of these officials, and asked the American people to join her in accepting the challenge to conserve our water.

### **CONCLUSION**

We have made tremendous progress in cleaning up our waters over the past three decades -- an achievement that is even more remarkable in coming alongside substantial increases in our population growth and often-dramatic economic growth. As a nation, we can be proud of how far we've come, and of the partnerships among all levels of

government, the private sector and America's citizens that enabled us to get there. Those remarkable achievements should strengthen our resolve to persist in facing the tough work still before us, and to continue and enhance the cooperation and the working relationships that are essential to reach our goal of clean water for everyone, all across the nation. We at EPA appreciate your support and commitment to these vital goals, and look forward to blazing a path towards them together.

This concludes my prepared remarks. I would be happy to address any questions you may have at this time.

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